

Time-Critical Responses to Spring 2006 High Water and Resultant Erosion-Related Damage at the Holden Mine Site

A major flood event on October 20, 2003, eroded portions of the Railroad Creek and Copper Creek channels and portions of Tailings Piles 1 and 2, and other related areas. Repairs to these select sections of the Railroad Creek and Copper Creek drainages, as well as the replacement of the Holden Village vehicle bridge, were completed as part of two separate time-critical removal actions (November 2003 and October 2004). However, subsequent 2006 runoff-related events resulted in the need to complete additional immediate erosion-related repairs to avoid additional damage to the environment from further high water events. The Holden Mine Site is situated adjacent to Railroad Creek within the Chelan Ranger District of the Okanogan-Wenatchee National Forest and is approximately 12 miles west of the boat landing at Lucerne on Lake Chelan.

It was important to complete this work without delay due to the potential for high water during fall-winter storm events and spring 2007 snowmelt exacerbating rerouting of Copper Creek and undercutting of Tailings Pile 2 potentially threatening mass failure of a portion of tailings pile 2 and causing further erosion of the surface of Tailings Pile 1. Therefore, the USDA – Forest Service approved an Action Memorandum on August 28, 2006 for a time-critical removal action that was conducted under an existing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Order on Consent (AOC), dated April 11, 1998, between Intalco (successor to Howe Sound Mining Company) and the Agencies (USDA-Forest Service, US-EPA and the Washington Department of Ecology) for conducting a Remedial Investigation/Feasibility Study (RI/FS) of the Holden Mine Site. The Forest Service is the lead agency directing the RI/FS.

This time-critical removal action began on September 27, 2006 and was successfully completed by October 1, 2006. Work consisted of: 1) Placement of erosion protection at the northwest corner of tailings pile 1 to protect the tailings pile surface and base of slope from further erosion; 2) Modification of the eastern Copper Creek channel downstream of the culverts by armoring the eroded bank and shaping the channel downstream, between tailings piles 1 and 2, in order to protect the western margin of the tailings pile from further erosion; 3) Gravel will be added adjacent to the culvert to protect a roadway on top of tailings pile 1 from erosion; 4) Placement of additional rock and gravel within the approach fill for the Holden Village vehicle bridge that was replaced after the October 2003 flood event; and 5) Removal of a log that lodged along the north bank of Railroad Creek, upstream of the Holden Village vehicle bridge.